

In the claims:

Amend claim 1 to read

1 1. (Thrice amended) A method of characterizing a skin lesion wherein the absorption and
2 scattering of light in different spectral bands by the skin lesion is a function of the
3 condition of the skin, the method comprising:
4 illuminating a portion of the skin including the region of interest by light in at least three spectral
5 bands[, one of which is a blue spectral band];
6 digitally imaging a portion of the skin including the region of interest at the at least three spectral
7 bands with the light re-emitted by the portion of the skin to generate digital images
8 comprising digital signals whose values are a function of the condition of the region of
9 interest of the skin; and
10 providing the digital images to a processor, wherein the processor:
11 segments the digital image by generating a single segmentation mask defining the boundary of
12 the region of interest for each image, where the single segmentation mask is the
13 segmentation mask having largest area of segmentation masks generated from each image
14 in each of the at least three spectral bands [from the digital image in the blue spectral
15 band], without operator intervention;
16 automatically computes at least one estimated value for each digital image at each spectral band
17 which is a function of a characteristic of the portion of the region of interest determined by
18 the segmentation mask, without operator intervention;
19 characterizes the condition of the skin as malignant or benign based on the estimated values,
20 without operator intervention; and
21 outputs the characterization of the condition of the skin.
22

1 Amend claim 14 to read

17

1 ~~14~~ (Twice amended) A method of characterizing the condition of a region of interest of skin,
2 wherein the absorption and scattering of light in different spectral bands by the region of
3 interest is a function of the condition of the skin, the method comprising:
4 illuminating a portion of the skin including the region of interest by light in at least three spectral
5 bands;
6 digitally imaging the portion of the skin including the region of interest at the at least three
7 spectral bands with the light re-emitted by the portion of the skin to generate digital
8 images comprising digital signals whose values are a function of the condition of the
9 region of interest of the skin; and
10 providing the digital images to a processor, wherein the processor:
11 segments the digital images by generating a single segmentation mask defining the
12 boundary of the region of interest for each image, where the single segmentation
13 mask is the segmentation mask having largest area of segmentation masks
14 generated from each image in each of the at least three spectral bands [the
15 segmentation mask generated from the digital image acquired in that spectral
16 band for which the imaged skin lesion has the largest area];
17 computes at least one estimated value for each digital image at each spectral band which is
18 a function of a characteristic of the region of interest determined by the
19 segmentation mask;
20 characterizes the condition of the region of interest of the skin based on the estimated
21 values; and
22 outputs the characterization of the condition of the region of interest of the skin.

1 Amend claim 44 to read

45

1 ~~44~~ (Twice amended) A system for characterizing the condition of a region of interest of skin,
2 comprising:
3 a source of illumination of light in at least three spectral bands;
4 a camera for acquiring digital images of the region of interest based on the light re-emitted from
5 the illuminated region of interest at each of the spectral bands, the digital image
6 comprising digital signals whose values are a function of the condition of the region of
7 interest;
8 memory for storing the digital images provided by the camera;
9 a digital processor programmed to perform the steps of:
e³ 10 segmenting the digital images stored in memory by generating a single segmentation mask, where
11 the single segmentation mask is the segmentation mask having largest area of
12 segmentation masks generated from each image in each of the at least three spectral bands
13 [from the digital image of largest area in any one of the at least three spectral bands];
14 estimating at least one value for each digital image at each spectral band which is a function of the
15 texture of the portion of the region of interest determined by the segmentation mask;
16 characterizing the condition of the skin based on the estimated values; and
17 outputting the characterization of the region of interest.

Amend claim 67 to read

68

1 ~~67~~ (Amended) A system for characterizing the condition of a region of interest of skin,
2 comprising:
3 a source of illumination of light in at least three spectral bands;
4 a camera for acquiring digital images of the region of interest based on the light re-emitted from
5 the illuminated region of interest at each of the at least three spectral bands, the digital
6 image comprising digital signals whose values are a function of the condition of the region
7 of interest;
8 a memory for storing the digital images;
9 a digital processor including:
10 digital processing means for segmenting the digital images stored in memory and computing
11 estimated values of parameters which are a function of the segmented images, wherein the
12 digital images are segmented by generating a single segmentation mask, where the single
13 segmentation mask is the segmentation mask having largest area of segmentation masks
14 generated from each image in each of the at least three spectral bands;
15 digital processing means for automatically characterizing the condition of the tissue based on the
16 estimated values; and
17 means for outputting the characterization of the region of interest.

18 Cancel claim 73 without prejudice.

REMARKS

21 Reconsideration of the application in view of the above amendments and the following
22 remarks is requested.

23 Claims 1-79 are now in this case. Claims 1, 14, 44, and 67 have been amended to more
24 precisely define the invention. Claim 73 has been canceled.

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